

Cox, which led him not only to transliterate after their manner, but even to extend the fad into English, and to write such dreadful words as "Hellenik" and "Dionysiak." As a critic said, "Why not Dionusiak Muth?" which was a palpable hit. However, to be just, much of this sort of thing also has disappeared from Mr. Brown's present book, which we readily allow to be a heap of antiquarian learning, Assyriological and other, on the subject of which it treats.

Whether the Assyriology and the Sumerology are all right the lay critic is unable to tell, but there is probably a good deal in Mr. Brown's Assyrian learning that is not entirely orthodox, to judge from the undoubtedly unorthodox nature of much of his Greek philology, to which *Ammā-el-θeīa* testifies. That dreadful soloikism (as we suppose Mr. Brown would say) makes us perhaps unduly suspicious. If so, we hasten to beg Mr. Brown's pardon, as we do not wish to share the fate of the Assyriological reviewer (not ourselves) of vol. i. of "Primitive Constellations" in NATURE (April 13, 1899, vol. lix., p. 553), who said that Mr. Brown made mistakes in his Assyrian and was smitten by a Browniak thunderbolt for his temerity. The learned author refers to this circumstance in a note in the volume under review. Perhaps Mr. Brown may think he scored, but it is perfectly plain that when he wrote "Barsipki" as the name of the town of Barsip (Borsippa) he was under the erroneous impression that the written suffix *-ki* was pronounced, otherwise he would not have spelt it out. "Barsip^{ki}" was written, "Barsip" was said; "Barsipki" was never either written or said. If Mr. Brown does not understand what is meant he does not understand the cuneiform writing, and if his Assyriology is bad the whole of his book must be bad too.

OUR BOOK SHELF.

Biologische und morphologische Untersuchungen über Wasser- und Sumpfgewächse. Erster Teil. Die Lebensgeschichte der europäischen Alismaceen. By Prof. Hugo Glück, Heidelberg. Pp. xxiv+312+xiv figures and plates. (Jena: G. Fischer, 1905.) Price 20 marks.

THIS elaborate and apparently exhaustive monograph is one of the fruits of the morphological school founded in Munich by Goebel, but the author, struck, as so many writers have been, with the enormous variability of these plants, has here attempted to bring together the facts, not only of the influence of the environment as expressed in the direct action of such agencies as light, situation, water, and other factors, but has also tried to weave these into a sort of system such as can be used by the systematist.

He says:—"Meiner Ansicht nach ist das der einzige Weg, der uns über das Zustandekommen der einzelnen Formen und ihre Abhängigkeit vom Standort sicheren Aufschluss erteilt, da ja in der freien Natur die Standortverhältnisse dieser Pflanzen einem steten Wechsel unterworfen sind und sich der direkten Beobachtung mehr oder minder entziehen."

But, in addition, extensive collections of herbarium material were made and examined, and plants over wide areas examined *in situ*.

The book falls into two parts, of which the first

or special part deals with the biology in the German sense of the word, of the various species of *Alyssa*, *Echinodorus*, *Elisma*, *Caldesia*, *Damasonium*, and *Sagittaria*. Each of these species is then examined in detail as regards the general action of the environment, its aquatic forms or varieties, its land forms, its seedlings, and its so-called monstrosities whether found wild in nature or produced in culture, and lastly, the condition in which it passes the winter. Here and there are notes on other matters of detail, such as floating apparatus, the influence of light, turions, submersed forms, &c.

The second or general part of the work describes an investigation of the adaptation of the various parts to different functions in general. One of the most interesting sections here will be the examination of the formative factors (*gestaltbildener factoren*), and another is the results considered in respect to systematic botany. There is a rather too meagre index, but a very special word of praise should be given to the plates, and we congratulate author and publisher alike on the drawing and reproduction of the figures. Few morphologists will be able to dispense with the book, and certainly no systematist concerned with the biology of this interesting group of water-plants.

School Gardening for Little Children. By Lucy R. Latter. Introduction by Prof. P. Geddes. Pp. xxiv+166. (London: Swan Sonnenschein and Co., Ltd., 1906.) Price 2s. 6d. net.

THE value of any particular scheme of education for little children depends more on the interest the teacher feels in the subject, and on the sympathy he or she is able to manifest towards the pupils, than on the scheme itself. We think this will be obvious to anyone who peruses the pages of the volume before us. Most children bred in the country have a "garden all to themselves," but we doubt whether any permanent benefit is derived by them unless their work in it is directed with sympathetic intelligence such as is revealed in Miss Latter's pages. "I have tried," says the author, "to prove that it is possible to make nature-teaching the central point of the life of a school without detriment to the children; that such teaching gives a real meaning and incentive to all the handwork and leads to a richer and truer appreciation of poetry, pictures and music."

"The experiment has been going on for nearly six years, during which time it has successfully stood the test of Government inspection. Each year has shown an increasing gain to the children intellectually as well as physically and morally. Instead of the children being less prepared for the work of the senior schools, it is found that they read, write, and do arithmetic as well, if not much better, for having had daily contact with plants and animals and opportunities for observing the various natural phenomena which affect their lives in one way or another. It is further found that such children pass on to the senior schools with a quickened power of observation, a far greater amount of intelligence, a keener desire to learn, and a greater refinement of heart than if their earlier years had been spent in acquiring mechanical perfection in the arts of reading, writing, and arithmetic before any real experience had been accumulated as a basis for those more formal branches of instruction."

Miss Latter speaks with authority, and a perusal of her book leads us to accord willing assent to it. In subsequent pages she tells us what have been the procedures which have contributed to her success, how part of the hard asphalt playground has been converted into the school-garden, how the garden is

"laid out," how it is maintained and cultivated, and what are the moral and religious lessons which arise gradually and spontaneously in a child's mind from the lessons afforded by the observation of plant-life and the habits of animals. We have no doubt of the truth of all this, but only on the condition before mentioned as to the tactful sympathy of the teacher.

LETTER TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.]

The Earth's Interior.

It has long been suspected that the earth is an iron planet, and now, through the work of Strutt and others, the evidence both for and against is intensifying.

It is just worth noting, as a matter of simple arithmetic, that a core of metallic iron of density 7, covered with a crust of rock 500 miles thick of density 2.5, together make up the known average terrestrial density, 5.6; but recent evidence, interestingly summarised by Principal Griffiths in his presidential address to Section A of the British Association, points to a crust much thinner than the above. It is to be hoped that the "boring" proposals of the Hon. Chas. Parsons will before long attract the attention they deserve.

OLIVER LODGE.

THE EARTHQUAKE IN SOUTH AMERICA.

BETWEEN seven and eight o'clock on Thursday evening last, Valparaiso, Santiago, and many other parts of Chile were visited by a very severe earthquake, causing, it is feared, heavy loss of life and widespread damage. As was the case in San Francisco, the earthquake was followed by many outbursts of fire and the failure of the gas and electric light. According to a telegram to the *New York Herald* from Valparaiso, that city experienced, without any warning, the day having been unusually calm and pleasant, two distinct shocks of earthquake, and, standing as it does upon a formation of granite and gneiss, it suffered severely. The same correspondent reported the occurrence of many landslides round the city. According to Reuter, the shock at Santiago de Chile was the most severe within living memory; it lasted three and a half minutes, and was followed by heavy showers. The seismograph at the observatory was thrown out of order by the violence of the shocks, which, though slight, continued for some days.

The disturbance extended over a zone of nearly two degrees, and it is impossible at present to estimate the number of lives lost and the damage done, the accounts received being of a very conflicting nature.

The Chilean Legation in London received the following telegram from Santiago on Monday last, and the wording is in marked contrast to that found in the communications sent by Press correspondents:—

"On the evening of the 16th a severe earthquake was felt between Valparaiso and Talca. The loss of life is not very great. The damage to property is considerable at Valparaiso but less at Santiago. Public order has been entirely maintained. The authorities and private persons are succouring the distressed people, and the foreign Legations are lending their aid. The north has been wholly unaffected by the earthquake."

The earthquake was duly recorded by seismographs in different parts of the world.

The instrument at Kew Observatory plainly showed

the magnitude of the disaster. The record indicated that the first tremor took place at thirty-three minutes after midnight, Greenwich time, on Friday morning. The first maximum was reached at 1.2 a.m., which was followed by continuous convulsions until a second maximum was reached at 1.50 a.m.

Prof. Milne is reported to have obtained good records by means of his instruments at Shide, Isle of Wight. The first records were observed at twenty-four minutes past twelve in the morning, and from these it was known that a disaster had occurred somewhere along the western side of South America. According to Valparaiso time, it would then have been 7.15. The duration was more than five hours.

According to Reuter's correspondent at Washington, a very heavy and distinct earthquake shock was recorded on Thursday evening by the seismographs of the Weather Bureau, beginning at five minutes twenty-two seconds after seven o'clock, time of the seventy-fifth meridian. Complete and perfect records were obtained of both north to south and east to west movements of the earth's crust. The tremors were comparatively slow, and their motion was deliberate, each complete movement covering from eighteen to forty seconds.

The disturbances lasted without intermission for several hours, and finally ceased about midnight. The most violent shock seems to have occurred at forty-two minutes twenty-six seconds after eight o'clock.

The instruments at the Hamburg Seismographic Institute are said to have shown greater and more prolonged signs of disturbance than at the time of the San Francisco disaster.

A telegram from Victoria, B.C., stated that the local seismograph recorded that the earthquake lasted four hours.

The tide gauges at Honolulu showed a disturbance, apparently of distinct origin, beginning at 5.23 a.m. on August 17. Three waves were indicated hourly, showing an oscillation of between three and four inches from the normal tides. Wireless reports from Maui and Hilo state that a wave 5 feet high occurred there. It manifested itself by an unprecedentedly heavy surf. In the enclosed Bay of Maalaea, on the island of Maui, the wave reached a height of 12 feet.

News has been received in New York that the earthquake has destroyed the island of Juan Fernandez (made famous by its supposed connection with Defoe's "Robinson Crusoe"), which was used as a Chilean penal settlement.

A despatch from Fort de France, Martinique, reports that earthquake shocks of varying severity were experienced on the island at 1.15 p.m. on August 19 and at 3.47 a.m., 4 a.m., and 8.37 a.m. on August 20, but that no damage was done; and a Reuter telegram from Lima states that Valparaiso was visited by another heavy earthquake on the night of Monday last: also that slight shocks were felt at Lima and Huacho on that day.

PROF. BROUARDEL.

WE regret to record the death of Prof. Paul Brouardel, of Paris, who died on July 23 at the age of sixty-nine years. Prof. Brouardel had held a large number of most important positions in the University of Paris and in the official life of France, and he had many friends in England in connection with the important work in legal medicine and in hygiene which he had done.

He was born in St. Quentin in 1837, and received his early education at the Lycée St. Louis, in Paris. In 1859 he was an *interne* at the hospitals; he took